OIPE

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                 RAW SEQUENCE LISTING                       DATE: 03/19/2002
                 PATENT APPLICATION:  US/10/087,573         TIME: 16:01:50

                 Input Set : A:\20010041.app
                 Output Set: N:\CRF3\03192002\J087573.raw

      3 <110> APPLICANT: SCHETTERS, Theodorus PM
      4       CARCY, Bernard PD
      5       DRACULOVSKI, Pascal R
      6       GORENFLOT, Andre F
      8 <120> TITLE OF INVENTION: BABESIA CANIS VACINE
     10 <130> FILE REFERENCE: SCHETTERS
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/087,573
C--> 13 <141> CURRENT FILING DATE: 2002-02-28
     15 <150> PRIOR APPLICATION NUMBER: EP 01200816.5
     16 <151> PRIOR FILING DATE: 2001-03-06
     18 <160> NUMBER OF SEQ ID NOS: 10
     20 <170> SOFTWARE: PatentIn Ver. 2.1
     22 <210> SEQ ID NO: 1
     23 <211> LENGTH: 1135
     24 <212> TYPE: DNA
     25 <213> ORGANISM: Babesia canis
     27 <220> FEATURE:
     28 <221> NAME/KEY: CDS
     29 <222> LOCATION: (75)..(500)
     31 <400> SEQUENCE: 1
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     34 tataataata aagg atg gag tcg aca tca aca acg acc aac ttt gtt gcc   110
     35                 Met Glu Ser Thr Ser Thr Thr Thr Asn Phe Val Ala
     36                   1               5                   10
     38 gag aac cgt ccc acc ttt ggt gag acg ttt gat gtg atg agg gaa gct   158
     39 Glu Asn Arg Pro Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala
     40          15                  20                  25
     42 ttg ctt cgt gta aag tcc tct gaa cgc ttg gca atg ctc aga gcg ctt   206
     43 Leu Leu Arg Val Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu
     44      30                  35                  40
     46 gca gga atg tgc ggt cac cgc gtc ctt cct ggc act ggt gct tct gcg   254
     47 Ala Gly Met Cys Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala
     48  45                  50                  55                  60
     50 ata gcg gca acg gta acc cca aag ggg gct tcg atg aag ctt aaa cca   302
     51 Ile Ala Ala Thr Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro
     52                  65                  70                  75

[illegible]

     62 aac cac cgg ttg ccg gaa ggc cac cct ctc tta [illegible]           446
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Asn His Arg Leu Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu
    110                 115                 120
tat ttt cgt cac ctt aga tct ctt aag agc caa gga gtc aat aga ctc    494
Tyr Phe Arg His Leu Arg Ser Leu Lys Ser Gln Gly Val Asn Arg Leu
125                 130                 135                 140
atc taa gaaggcacta cgtaggtacc gtgcctctat gaggaatacg aaccgactag     550
Ile
tgcacaatag acgaccagtt ctaccaaagg tagagcctga ctctaatcta ccattcggcc 610
agcgacggag tcgcatgaca acgtggaatc ttagaccacg ccggacgggt tatccgtcaa 670
atggtacttt ggcagttacg gaactcctga tctcgattta tagatcaaac ttctacacct 730
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tcgtagaata ctgcaaaacc aggatatgcg tcgaggcacg cctcaccgga ctacgtccga 910
gggtgaccct aacgggctgc tgaactaggt tcagccagcg cttcctgtga gtatgtcatt 970
ccgggtcctt cgggcccgg gccagtttcg actggtgtag gtttgcccta ctagagtact 1030
tgcgacgccg aagcgcctcc gttcaaaaga acgcgcaagc cctagcagag aaatgcgagg 1090
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<212> TYPE: PRT
<213> ORGANISM: Babesia canis
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 1               5                  10                  15
Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala Leu Leu Arg Val
            20                  25                  30
Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys
        35                  40                  45
Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr
    50                  55                  60
Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln
65                  70                  75                  80
Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu
                85                  90                  95
Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu
            100                 105                 110
Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Arg His
        115                 120                 125
Leu Arg Ser Leu Lys Ser Gln Gly Val Asn Arg Leu Ile
    130                 135                 140
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<212> TYPE: DNA
<213> ORGANISM: Babesia canis
<220> FEATURE.
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PATENT APPLICATION:  US/10/087,573                TIME: 16:01:50

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133 tataataata aagg atg gag tcg aca tca aca acg acc aac ttt gtt gcc     110
134                 Met Glu Ser Thr Ser Thr Thr Thr Asn Phe Val Ala
135                  1               5                   10
137 gag aac cgt ccc acc ttt ggt gag acg ttt gat gtg atg agg gaa gct     158
138 Glu Asn Arg Pro Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala
139          15                  20                  25
141 ttg ctt cgt gta aag tcc tct gaa cgc ttg gca atg ctc aga gcg ctt     206
142 Leu Leu Arg Val Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu
143      30                  35                  40
145 gca gga atg tgc ggt cac cgc gtc ctt cct ggc act ggt gct tct gcg     254
146 Ala Gly Met Cys Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala
147  45                  50                  55                  60
149 ata gcg gca acg gta acc cca aag ggg gct tcg atg aag ctt aaa cca     302
150 Ile Ala Ala Thr Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro
151                  65                  70                  75
153 ccg cgt ccg cag tca acg aag tct ccg gag ctc agg gag ctg tca cgg     350
154 Pro Arg Pro Gln Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg
155              80                  85                  90
157 aag att cgc gaa atg aat aag act ata agt cag gaa tca gct cgg gta     398
158 Lys Ile Arg Glu Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val
159          95                  100                 105
161 aac cac cgg ttg ccg gaa ggc cac cct ctc tta gag aag cgg gca gaa     446
162 Asn His Arg Leu Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu
163      110                 115                 120
165 tat ttc gtc acc tta gat ctc tta aga gcc aag gag tca ata gac tca     494
166 Tyr Phe Val Thr Leu Asp Leu Leu Arg Ala Lys Glu Ser Ile Asp Ser
167  125                 130                 135                 140
169 tct aag aag gca cta cgt agg tac cgt gcc tct atg agg aat acg aac     542
170 Ser Lys Lys Ala Leu Arg Arg Tyr Arg Ala Ser Met Arg Asn Thr Asn
171                  145                 150                 155
173 cga cta gtg cac aat aga cga cca gtt cta cca aag gta gag cct gac     590
174 Arg Leu Val His Asn Arg Arg Pro Val Leu Pro Lys Val Glu Pro Asp
175              160                 165                 170
177 tct aat cta cca ttc ggc cag cga cgg agt cgc atg aca acg tgg aat     638
178 Ser Asn Leu Pro Phe Gly Gln Arg Arg Ser Arg Met Thr Thr Trp Asn
179          175                 180                 185
181 ctt aga cca cgc cgg acg ggt tat ccg tca aat ggt act ttg gca gtt     686
182 Leu Arg Pro Arg Arg Thr Gly Tyr Pro Ser Asn Gly Thr Leu Ala Val
183      190                 195                 200
185 acg gaa ctc ctg atc tcg att tat aga tca aac ttc tac acc ttg aag     734
186 Thr Glu Leu Leu Ile Ser Ile Tyr Arg Ser Asn Phe Tyr Thr Leu Lys
187  205                 210                 215                 220
189 gtg gtc gag gaa ggg aga tgt acg tgc tgc aac acc cat aag gag caa     782
190 Val Val Glu Glu Gly Arg Cys Thr Cys Cys Asn Thr His Lys Glu Gln
191                  225                 230                 235
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198 Ser Val Gly Arg Ser Val Phe Val Glu Tyr Cys Lys Thr Arg Ile Cys
199         255                 260                 265
201 gtc gag gca cgc ctc acc gga cta cgt ccg agg gtg acc cta acg ggc    926
202 Val Glu Ala Arg Leu Thr Gly Leu Arg Pro Arg Val Thr Leu Thr Gly
203     270                 275                 280
205 tgc tgaactaggt tcagccagcg cttcctgtga gtatgtcatt ccgggtcctt         979
206 Cys
207 285
209 cggggcccgg gccagtttcg actggtgtag gtttgcccta ctagagtact tgcgacgccg 1039
211 aagcgcctcc gttcaaaaga acgcgcaagc cctagcagag aaatgcgagg gcatgactct 1099
213 tcgagtcaaa aaaaaaaaaa aaaaaaaaac tcgag                            1134
216 <210> SEQ ID NO: 4
217 <211> LENGTH: 285
218 <212> TYPE: PRT
219 <213> ORGANISM: Babesia canis
221 <400> SEQUENCE: 4
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223   1           5                  10                  15
225 Thr Phe Gly Glu Thr Phe Asp Val Met Arg Glu Ala Leu Leu Arg Val
226             20                  25                  30
228 Lys Ser Ser Glu Arg Leu Ala Met Leu Arg Ala Leu Ala Gly Met Cys
229         35                  40                  45
231 Gly His Arg Val Leu Pro Gly Thr Gly Ala Ser Ala Ile Ala Ala Thr
232     50                  55                  60
234 Val Thr Pro Lys Gly Ala Ser Met Lys Leu Lys Pro Pro Arg Pro Gln
235 65                  70                  75                  80
237 Ser Thr Lys Ser Pro Glu Leu Arg Glu Leu Ser Arg Lys Ile Arg Glu
238                 85                  90                  95
240 Met Asn Lys Thr Ile Ser Gln Glu Ser Ala Arg Val Asn His Arg Leu
241             100                 105                 110
243 Pro Glu Gly His Pro Leu Leu Glu Lys Arg Ala Glu Tyr Phe Val Thr
244         115                 120                 125
246 Leu Asp Leu Leu Arg Ala Lys Glu Ser Ile Asp Ser Ser Lys Lys Ala
247     130                 135                 140
249 Leu Arg Arg Tyr Arg Ala Ser Met Arg Asn Thr Asn Arg Leu Val His
250 145                 150                 155                 160
252 Asn Arg Arg Pro Val Leu Pro Lys Val Glu Pro Asp Ser Asn Leu Pro
253                 165                 170                 175
255 Phe Gly Gln Arg Arg Ser Arg Met Thr Thr Trp Asn Leu Arg Pro Arg
256             180                 185                 190
258 Arg Thr Gly Tyr Pro Ser Asn Gly Thr Leu Ala Val Thr Glu Leu Leu
259         195                 200                 205
261 Ile Ser Ile Tyr Arg Ser Asn Phe Tyr Thr Leu Lys Val Val Glu Glu
262     210                 215                 220
264 Gly Arg Cys Thr Cys Cys Asn Thr His Lys Glu Gln Ala Leu Leu Leu
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RAW SEQUENCE LISTING                          DATE: 03/19/2002
PATENT APPLICATION:  US/10/087,573            TIME: 16:01:50

Input Set  : A:\20010041.app
Output Set: N:\CRF3\03192002\J087573.raw

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273 Leu Thr Gly Leu Arg Pro Arg Val Thr Leu Thr Gly Cys
274             275                 280                 285
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285 ctttgttgcc gagaaccgtc ccacctttgg                                   90
288 <210> SEQ ID NO: 6
289 <211> LENGTH: 24
290 <212> TYPE. DNA
291 <213> ORGANISM: Babesia canis
293 <400> SEQUENCE: 6
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297 <210> SEQ ID NO: 7
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299 <212> TYPE: DNA
300 <213> ORGANISM: Babesia canis
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307 <211> LENGTH: 20
308 <212> TYPE: DNA
309 <213> ORGANISM: Babesia canis
311 <400> SEQUENCE: 8
312 atgagtctat tgactccttg                                              20
315 <210> SEQ ID NO: 9
316 <211> LENGTH: 21
317 <212> TYPE: DNA
318 <213> ORGANISM: Babesia canis
320 <400> SEQUENCE: 9
321 agggagctgt cacggaagat t                                            21
324 <210> SEQ ID NO: 10
325 <211> LENGTH: 21
326 <212> TYPE: DNA
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329 <400> SEQUENCE: 10
330 atgaggaatt cgaaccgact a                                            21
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VERIFICATION SUMMARY                         DATE 03/19/2002
PATENT APPLICATION:  US/10/087,573           TIME 16:01:51

Input Set  : A:\20010041.app
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L:12 M:270 C: Current Application Number differs, Replaced Current Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date
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